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## Development of the New York State Nutrition Surveillance Program

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### Synopsis .....

*New York State established a Nutrition Surveillance Program (NSP) in 1984. Precedents for the program included the Pediatric Nutrition Surveillance System of the Public Health Service's Centers for Disease Control and Prevention and periodic food and nutrition surveys conducted by the National Center for Health Statistics and the Human Nutrition Information Service, Department of Agriculture.*

*The first phase of NSP was connected to a new program, the Supplemental Nutrition Assistance*

*Program (SNAP), which established support for more than 1,000 emergency food programs across the State. SNAP also expanded the home delivered meal program for the frail elderly and the Special Supplemental Food Program for Women, Infants, and Children. NSP provided information on the extent of unmet nutrition needs that was used to establish funding requests and provided data describing the characteristics of SNAP participants that were used in developing new SNAP program components.*

*The second phase of NSP began in 1988. It identified populations that were thought to be at nutrition risk and compiled information about the extent of unmet need, the characteristics of the population, and the status of current nutrition programs to meet the needs. As a result of this review, NSP added a nutrition component to the Dental Survey of School Children; conducted a dietary survey; developed an inventory of information sources in all State agencies; and established an annual work plan using department of health objectives.*

*The third phase of NSP is the policy and planning phase, monitoring the Year 2000 Objectives and the Five-Year Plan of the New York State Food and Nutrition Policy Council.*

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**N**UTRITION SURVEILLANCE is defined as the regular and timely collection, analysis, and reporting of data on nutrition risk factors, nutrition status, and nutrition-related disease in the population.

The activity is undertaken to provide information useful in supporting, improving, and guiding decisions regarding the need for nutrition interventions and the extent and distribution of nutrition-related problems in the population (1, 2).

The concept is derived from disease surveillance and is a means of watching over nutrition and making decisions that lead to improvements in the nutrition-related problems of populations at risk.

The State of New York, in a publication on its Nutrition Surveillance Program (NSP), defines nutrition surveillance as the periodic and ongoing collection, analysis, and reporting of information

on nutrition status, nutrition risk factors, and nutrition-related diseases in order to assist in making policy and program decisions that affect the nutrition status of the population in New York State (3). We describe the development of NSP as a component of a comprehensive State nutrition service delivery program.

Four different kinds of nutrition surveillance systems have been described (4) and may be applicable to States in various degrees. The types are

- timely warning and intervention that prevents short-term critical reductions in food consumption;
- problem identification that assesses or monitors, or both, indicators related to nutrition status as a basis for directing funds toward particular nutrition problems;

- policy and program planning that enhances nutrition effects of development policies as expressed through programs or assesses policies and programs; and
- management and evaluation that rationalizes and maximizes the effectiveness of health and nutrition programs.

The first accompanying box, page 231, summarizes milestones in the development of nutrition surveillance nationally, internationally, and in New York State from before 1969. In New York, NSP was initiated in the period 1984–87. The initial stage was characterized as reacting to sudden demands created by the newly established Supplemental Nutrition Assistance Program (SNAP). Three nutritionally vulnerable populations were identified for SNAP. These were (a) low-income women, infants, and children served by the Special Supplemental Food Program for Women, Infants, and Children (WIC); (b) the frail elderly, served through congregate and home-delivered meals; and (c) the homeless and destitute, served by emergency food programs. Those groups, their risk indicators, and the users of the information are shown in the second accompanying box, page 232.

The State department of health nutrition surveillance functions, decisions, and users of that information are shown in the third accompanying box, page 235. The arrangement provided an immediate framework for policy and program decisions needed to respond to the urgent demand to deliver nutrition assistance to those in need through SNAP. Those initial policy and program decisions were designated as items in the budget legislation. The decisions were made on the basis of past experience, available data, information from the literature, and the department's time constraints and available resources.

The fourth accompanying box, page 236, shows the coordinates of a nutrition surveillance matrix. This type of information can be used to describe nutrition status, nutrition risk factors, and nutrition-related diseases of the general population. Characteristics of populations at risk for nutrition problems are indicated by such coordinates as age, ethnic group, access to food programs, income level, and geography.

The sources of existing data include Federal, State, and local data systems, and discrete studies. Among those are SNAP (elderly diet assessments, statewide survey of emergency food providers, and emergency food users studies); discharge data from Statewide Planning and Research Cooperative Sys-

*'The growing number and severity of public health nutrition problems will render current systems inadequate to meeting information needs unless we continue to develop more sophisticated surveillance systems.'*

## Milestones in the Development of Nutrition Surveillance

### Before 1969

#### *National:*

National Food Consumption Survey, USDA, from 1940s (19–21)

### 1969–81

#### *National:*

White House Conference on Food, Nutrition, and Health

Health and Nutrition Examination Survey, PHS (19, 22)

Pediatric Nutrition Surveillance System, CDC (19–21)

Objectives for the Nation, DHHS (23–25)

#### *International:*

World Food Conferences, FAO

Nutrition Surveillance Report, Joint FAO-UNICEF-WHO Committee (1)

### 1982 and later

#### *National:*

President's Task Force on Food Assistance (26)  
"Surgeon General's Report on Nutrition and Health" (27)

"Diet and Health," National Research Council (28)

#### *International:*

"Nutritional Surveillance," WHO (29)

#### *New York State:*

"Nutrition Watch," Department of Health (30)  
Supplemental Nutrition Assistance Program (SNAP)

Nutrition Surveillance Program

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PHS = Public Health Service, DHHS = Department of Health and Human Services, USDA = Department of Agriculture, CDC = Centers for Disease Control and Prevention, FAO = Food and Agriculture Organization, UNICEF = United Nations Children's Fund, WHO = World Health Organization.

**Indicators for Populations at Nutrition Risk and the Users of the Information, New York State Nutrition Surveillance Program**

**Low-income women, infants, and children**

*Indicators:*

Program coverage rates based on an income less than 185 percent of the poverty level  
Low birth weight rate  
Infant mortality rate

*Users:*

Agency executives, central office staff, regional staff, and advocates

**Frail elderly**

*Indicators:*

Frailty rate, based on:  
Rate of elderly minority group members  
Rate of those with income less than 100 percent of the poverty level  
Rate of those older than 85 years  
Rate of those older than 75 years and living alone  
Rate of discharge with nutrition-related diagnoses  
Program coverage rates  
Program followup, length of program use

*Users:*

State program staff, county-area agencies for the aging (AAA), program directors

**Homeless and destitute persons**

*Indicators:*

Emergency food program enumeration to select sites for random samples of monthly monitoring  
Annual program census  
Program followup of food quality

*Users:*

Local providers, advocates, State program staff members

Surveys of School Age Children; Hispanic Health and Nutrition Examination Survey; Behavioral Risk Factor Surveillance System; vital statistics; and the National Health and Nutrition Examination Survey.

NSP reviewed the information available to describe the current status of nutrition problems in the populations designated in the budget legislation and the current status of intervention programs. In subsequent years, information on the progress of the intervention and the nutrition problems was required annually for budget preparation, expenditure plan approval, and program implementation.

**Surveillance of At-Risk Populations**

In estimating nutrition needs in nutritionally vulnerable populations of women and children, three indicators were used: low birth weight rates, incomes less than 185 percent of the poverty level, and infant mortality rates. Program coverage rates were used to describe the status of the intervention provided under the WIC Program. Funds were directed primarily to those programs in upstate counties that had low coverage (fig. 1) and to low-coverage communities in New York City (fig. 2), using postal zip codes.

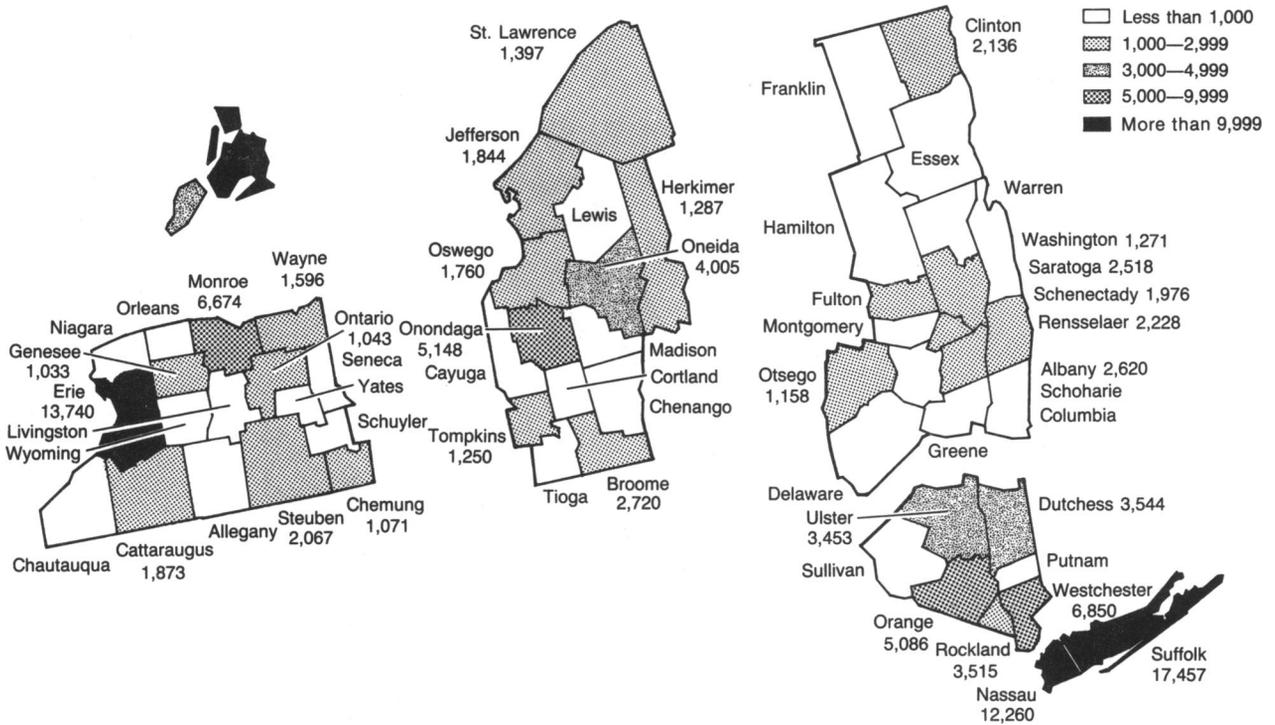
The projections of the numbers of persons eligible for primary prevention nutrition benefits were used in monitoring progress, in establishing priorities for the coming year, and in allocating funds. When counties and community districts remained on the high priority list, staff members of the Bureau of Nutrition established initiatives designed to deliver program benefits to eligible and high-need populations more effectively.

The need for home delivered meals for the frail elderly, those older than 60 years, was identified using as nutrition indicators the proportion of those with incomes below poverty level, members of minority groups, and those living alone. About 10 percent of those in need of home delivered meals were receiving them in the existing system. To identify counties with the greatest needs, a frailty index was computed that ranked counties by the percent of the population consisting of persons 60 years and older at risk for nutrition problems.

First, NSP computed an age-specific frailty rate for the elderly using those older than 60 years as the denominator for the following characteristics: member of a minority group, income below poverty level, older than 85 years, and older than 75 years and living alone. Next, the number of nutrition-related hospital discharges during the pre-

tem (SPARCS), a New York State Department of Health hospital discharge data set; WIC participant records; Nutrition and Dental Health Survey; county level poverty estimates developed by the Council for Children and Families; Healthy Heart Program Community and Statewide Telephone Survey; New York State Dietary Survey; Community Childhood Hunger Identification Project; Nutrition

Figure 1. Projection of numbers of persons eligible for, but not served by, WIC Program services in New York counties, New York State Nutrition Surveillance Program, September 1989



vious year in a county per 1,000 people older than 60 years (the county discharge rate), and the number of hospital discharges during the previous year in the State per 1,000 people older than 60 years (the State average discharge rate) were computed for each county, using SPARCS.

At discharge, a patient could be assigned up to five different disease codes under the International Classification of Diseases, Clinical Modification (5), and 117 possible nutrition-related codes were selected. The discharge diagnoses included fracture of lower limb, chronic heart disease, glaucoma, and protein or calorie malnutrition. The disease discharge ratio was computed for each county by dividing the county discharge rate by the State average discharge rate. Those two rates, together with the age-specific frailty rate and the disease discharge ratio, were multiplied to provide a frailty index to rank the counties (fig. 3) (6).

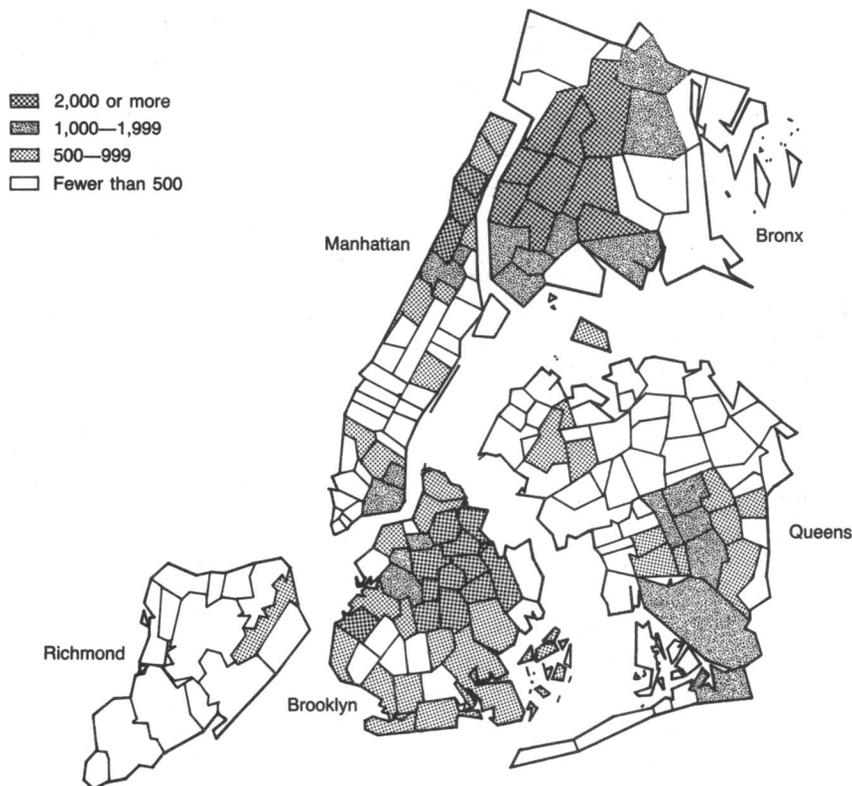
In the 1985 request for proposals for the frail elderly portion of SNAP, the scoring system for proposals included additional points to area agencies for services to the aging, known as AAA, based on their county's rank in the frailty index. Since counties with the greatest needs often had the least resources to devote to proposal submission, the scoring system gave them an advantage in the

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competition for funds based on need. Technical assistance to those counties resulted in more of them being funded in the second year than in the first. Some low ranked counties achieved funding, which demonstrated that the ranking system did not exclude low ranked counties from the funding competition.

When SNAP for the frail elderly was established in a county, program staff members completed a nutrition assessment for each enrollee. The assessments included indicators that were used to identify elderly people at risk for nutrition problems and in need of nutrition services (7). The indicators were used to create synthetic estimates of need for services, using data from the 1985 National Health Interview Survey, conducted by the National Cen-

Figure 2. Estimated number of persons eligible for, but not served by <sup>1</sup>, WIC Program services in New York City, by zip code, New York State Nutrition Surveillance Program, 1989



<sup>1</sup> Estimated number of eligibles minus the numbers served.

Figure 3. Disease adjusted age specific frailty rate (DAASF) for the elderly

Age specific frailty rate				Disease discharge ratio		
Number of minorities	+	Number <100% poverty	+	Population 80+	+	Population 75 living alone
Population 60+				x	County discharge rate	= DAASF
					State average discharge rate	

Note: County discharge rate = number of elderly discharged with a nutrition-related diagnosis per 1,000 of the population 60 years and older in the county.

State average discharge rate = number of elderly discharged with a nutrition related diagnosis per 1,000 of the population 60 years and older in the State.

ter for Health Statistics, and the elderly supplement in that survey (8). This estimate was applied to the counties for an age- and income-adjusted estimate of need in order to compare the coverage rates of counties. Those counties with a low rate were identified for technical assistance and reallocation of unspent funds at the end of the fiscal year.

When SNAP was established, there were estimates of about 50,000 homeless persons in New York City, but no estimates for areas outside the city, and no estimates of the number of destitute persons, those without adequate resources to eat. Since there was no method for estimating need, an estimate of service was developed by means of a statewide survey in 1985 that enumerated the emergency food sites and determined estimates of service at each site (9). A random sample of sites representing the six health regions in the State was selected from the survey to become part of a monitoring system with monthly reports. The system operated for 2 years and identified the end-of-the-month rise in the use of emergency food that has been reported (10).

The system was discontinued ultimately because the geopolitical unit used for planning and decision making by agencies is the county, and more useful information could be reported through a biennial statewide survey (11). The burden of monthly reporting was more than a volunteer network could sustain. The biennial survey now includes program

operation questions that provide information essential to developing program initiatives.

In summary, the first phase in the development of NSP in New York State was characterized by answering questions about estimates of need and program coverage for allocation of funds to establish programs for the three at-risk populations (second accompanying box, page 232). The phase included providing information describing the frail elderly participants in the first year who were short-term, intermediate-term, and long-term users of the program, as well as an evaluation of food quality at soup kitchens. The evaluation showed that SNAP-funded programs had higher food quality than those not funded by SNAP (12, 13).

### **Development, 1988-89**

By 1987, SNAP's needs for nutrition information for program resource allocation had been accommodated, allowing NSP to develop further its surveillance plan to meet the department's needs for information on nutrition-vulnerable populations. An inventory of nutrition data in programs for women and children identified missing, needed information and led to the establishment of two collaborative projects. The first was the addition of a nutrition component to the periodic random survey of dental health status in schools, grades two and five, conducted by the State bureau of dental health. The nutrition component consisted of measurements of height, weight, and triceps skin fold; a dietary interview; and a household report.

The results documented a higher prevalence of overweight in both grades than was expected and a higher prevalence of underweight in the fifth grade than was expected. As a result of the project, nutrition programs to identify, prevent, and treat nutrition problems, including abnormal weight status, are being developed with the school health clinics. The survey was successfully conducted in New York City schools and was used with migrant children in three summer school locations. The second collaborative project added questions about WIC participation to a statewide pregnancy outcome survey of women who had delivered during a designated week.

The Healthy Heart Program, a community intervention to reduce cardiovascular risk, initiated in 1988, and the Cancer Prevention Plan, developed in the 1986-87 period, identified the need for State-level dietary intake information to assess the current intake of fat, cholesterol, and other nutrients among adults. Although age- and sex-adjusted

## **Nutrition Surveillance Functions, Decisions, and Information Users, 1984-89, New York State Department of Health, Nutrition Surveillance Program**

### **Functions**

Ongoing, periodic estimation of unmet needs  
Identification of nutrition-related problems  
Characteristics of program participants  
Analysis of program design and operation

### **Decisions**

#### *Funding based:*

Total program budget request  
Partitioning funds to selected populations  
Allocating funds to selected locations  
Selecting appropriate type of delivery system

#### *Program based:*

Mix of nutrition services

### **Information users**

#### *Central personnel:*

Department representative to the State budget control unit and the legislature  
Department executive personnel in policy, planning, and evaluation  
Resource allocation decision makers for internal and external distribution  
Bureau and program directors

#### *Regional personnel:*

Directors of program and overall management  
Information personnel to local health departments, legislatures, and service providers

#### *Public and local level personnel:*

Advocates, local service providers, county government officials, and legislature members and staff

national prevalence estimates may be applied with confidence to make a State estimate, application to a smaller unit, such as a region, county, or civil jurisdiction, only reflects age-sex differences from site to site. Variations owing to population density, poverty, ethnicity, or availability of food are not captured in such extrapolations.

To assist in describing the nutrition component of chronic diseases, NSP developed a dietary surveillance system to provide information statewide and for population subgroups. The first New York dietary survey was conducted in 1989 and provided base line estimates of usual dietary intake of nutrients for the purpose of comparing them with

**Nutrition Surveillance Coordinates:  
Indicators of Nutrition Condition and  
Population Characteristics, New York  
State Nutrition Surveillance Program**

**Indicators**

*Nutrition status:*

Growth: height and weight, weight gain, birth weight, and infant mortality  
Blood and serum

*Foods and nutrients:*

Consumption, purchase, and supply

*Food practices:*

Food insufficiency, breast feeding, food excess habits, and other

*Nutrition-related disease conditions:*

Cardiovascular diseases, cancers, diabetes, and others

*Nutrition knowledge and attitudes:*

Knowledge scores, and attitude scores

*Nutrition indicators:*

Socio-economic status, education, disability, and hospitalization

*Nutrition environment:*

Retail markets, such as grocery and restaurant; weight loss program; nutrition counseling

**Population characteristics**

*Age, race or ethnicity, sex, and income level:*

Infants, preschoolers, school aged, adolescents, adults, elderly persons, pregnant women, parents and care givers

*Cultural groups:*

Haitian and French Creole, Puerto Rican and Dominican, South and Central Asian, Chinese and Korean, Native American, and Migrants

*Access (food program users):*

WIC, food stamps, school lunch, congregate meals, and emergency food

*Geography:*

State level, county, and zip code or census tract

WIC = Special Supplemental Food Program for Women, Infants, and Children.

data from national surveys to form the base line for ongoing monitoring (14). The dietary surveillance system was later expanded to include dietary modules from the Behavioral Risk Factor Surveillance System, of the Centers for Disease Control and Prevention.

**Policy and Planning, from 1989**

In 1987, the New York State Food and Nutrition Policy Council completed a Five-Year Food and Nutrition Plan to coordinate and promote food and nutrition programs in the State (15). The Advisory Committee requested that NSP provide information regarding the nutrition condition of residents and the status of the Five-Year Plan's recommendations. Since a number of the recommendations were beyond the Department of Health's responsibilities, NSP will identify missing information and explore the use of data from existing data bases in other agencies, as well as develop new systems for obtaining data for surveillance.

In 1988, the State health department drafted a set of population health outcome goals and objectives called the Health Assurance Model (unpublished, New York State Department of Health, Division of Policy and Planning, Albany, NY, 1988). NSP used those goals and objectives in planning activities for 1989-90, identifying the nutrition information that was needed to measure the outcome of the nutrition goals and objectives. Priority goals and objectives were identified by department decision makers during budget discussions, the expenditure planning approval process, and program implementation. The priority goals and objectives, the dates of the decision points, and the resources available provided direction for staff members to devise data collection mechanisms for the system. The data collection mechanisms became the 1989-90 work plan and the long term plan of NSP. The initiation, development, and policy and planning phases are described in the fifth accompanying box, page 237. NSP currently uses the Year 2000 Objectives (16) to guide the direction of the program.

**Lessons Learned**

The need for information for decision making drives the nutrition surveillance system in New York State, but identifying priorities and making program and policy decisions has been difficult for decision makers on all levels. Funding decisions

were clearly determined by budgetary legislation and demands to allocate resources. Articulation of other program-related decisions evolved gradually with the involvement of NSP. Listing questions that needed to be answered, rather than decisions, proved helpful in the policy formulation process.

The questions and the issues that they involved may be subsumed into four areas: policy and planning, program conceptualization and design, program monitoring and program utility related to outcomes, and the ability to provide timely warning to permit intervention. These NSP surveillance questions are shown in the sixth accompanying box, page 238, and are compatible with the kind of nutrition surveillance proposed by Habicht (4).

NSP staff members quickly began the process of program conceptualization and design; identified questions, particularly those related to directing services to at-risk populations; and defined problems. These areas continue to comprise much of NSP's work.

Procedures for emergency food surveillance were developed during the first three statewide surveys and provided information to program managers useful for selecting priority locations and populations each year. The elderly population had a service delivery system in place, to which nutrition surveillance was added. Through this system, NSP staff members analyzed assessments of the frail elderly who were enrolled in the home-delivered meal program of SNAP during a 2-year period and developed the prevalence estimates of need for services.

Extensive work was carried out to identify underserved populations of low-income women, infants, and children. Counties outside of New York City and community districts in New York City were analyzed for program coverage. Those areas with coverage less than 40 percent were identified for intensive technical assistance and additional funds. Program monitoring of service delivery was carried out, but not with regard to outcomes. Measuring outcome proved to be a challenge that was not easily solved under pressures to expend funds.

Systems to answer policy and planning questions currently are being designed for use with the Food and Nutrition Policy Council and the Year 2000 Objectives. The recommended actions of the Five-Year Plan are carried out by seven primary agencies. The impact or outcome intended by these actions direct the design and modification of NSP. The design of NSP is further directed by providing base line information and monitoring progress toward meeting Year 2000 Objectives in New York

*'The challenge in nutrition surveillance is to preserve simplicity in the design of the system, to keep the use of the system and the system user at the forefront of the work, and to be responsive to users' needs for information.'*

## **Phases of New York State Nutrition Surveillance Program**

### **Initiation, 1984-87**

Supplemental Nutrition Assistance Program (SNAP) implementation with:

- Low-income women, infants, and children
- Program coverage for selecting populations and prioritizing services
- Frail elderly persons
- Designating vulnerable groups
- Frailty Index to rank counties
- Homeless and destitute persons
- Enumeration of emergency food sites
- Monthly monitoring system of food provided
- Evaluation of food quality

### **Development, 1988-89**

- Growth measures added to periodic dental survey of school children
- Program participation questions added to statewide pregnancy outcome survey
- Dietary intake survey of adults for base line measures used in cardiovascular and cancer prevention program planning
- Nutrition assessment of State population used by New York State Food and Nutrition Policy Council in Five-Year Plan documentation
- Nutrition information identified to document nutrition objective outcomes in the Health Assurance Model

### **Policy and planning, 1989 and later**

- Developing State's Year 2000 Objectives
- Planning process using New York State's Health Assurance Model
- Surveillance for New York State Food and Nutrition Policy Council

## Policy Guidance Questions, New York State Nutrition Surveillance Program

### Policy and planning

Is there a significant nutrition problem that is not being addressed by a nutrition services or intervention program?

What is the extent and distribution of the nutrition problem?

What is the extent and distribution of the population at risk?

Are there certain population groups with worse nutrition than others?

What are their characteristics?

How are groups with particular problems defined?

Is the overall nutrition situation deteriorating or improving? Is this the same for all groups? Can the trends be explained?

Which indicators of nutrition risk are useful for surveillance of the at-risk population?

### Program conceptualization and design

What is the extent and distribution of the nutrition problem?

What is the extent and distribution of the at-risk population?

Is the program designed to meet intended goals? Is there a coherent rationale underlying it?

Have chances of successful delivery of the program been maximized?

Are there geographic areas of population groups that are currently unserved or underserved by nutrition services?

How much funding should be requested in order to meet the need?

How should funds be allocated across the State and within at-risk populations?

What indicators of nutrition risk are useful for surveillance of the at-risk population?

### Program monitoring and utility related to outcomes

Is the program reaching the specified population or area?

How well is the program identifying at-risk groups and directing coverage?

Are the intervention efforts being conducted as specified in the program design?

Are those persons in need of services being served?

Are the services being provided the most appropriate services for achieving the intended outcomes?

What other nutrition and food-related services are program participants receiving to meet their needs?

Are the needs of those being served changing?

Is the program effectively achieving its intended goals for nutrition outcome?

Can the results and outcomes of the program be explained by some alternative process outside the program?

Is the program being delivered as planned to the intended group and how well are those in need being served?

Is the gross change (outcome) adequate among those being served? Is the program effective in achieving outcomes?

### Timely warning and intervention

Are there indications of specific short-term nutrition problems?

Are there indications of future nutrition problems?

State and among high-risk population subgroups. The Department of Health's goals and objectives, included in the long-term portion of the NSP work plan, also provide direction for the policy and planning systems of NSP. For example, a problem identification system was established for school-aged children, as described.

The statewide dietary survey is establishing a baseline and methodology for identifying dietary problems in the State. The annual census of the emergency food sites includes questions that identify program problems for the use of staff members in planning. Movement in the direction of a food system analysis will provide a different level of problem identification.

The need became apparent for NSP to become

involved in national surveillance systems and to coordinate its activities with those under the National Nutrition Monitoring Act, passed by the 102th Congress in 1991, which established for the first time a Comprehensive National Nutrition Monitoring System. For instance, unlike most States, NSP did not implement the Pediatric Nutrition Surveillance System or the Pregnancy Nutrition Surveillance System at first, because of the way NSP evolved. However, these programs are now becoming cornerstones of program management and policy formulation, as well as in monitoring progress toward the Year 2000 Objectives and the goals of the Nutrition Policy Council. Some early activities of NSP have been described elsewhere (9, 10, 17).

The following guidance was developed from a staff review of NSP's experience during the past 5 years

- When the agency has an agreed upon set of outcome goals and objectives, or there are national goals and objectives, the plan for surveillance is clearer. Although the nutrition program's staff members may write a set of goals and objectives, if they are not in keeping with the agency's goals and objectives, the agency will not provide the necessary support. After the department's Health Assurance Model and the Year 2000 Objectives were distributed to the agency, NSP's work plan became straightforward.

- Evaluation of the surveillance system in relation to its goals and objectives, which are drawn from the decisions that are to be made, is needed to determine which aspects of the system to continue, discontinue, and develop (18). The extent to which information is used is critical when deciding whether or not to continue data collection and reporting. Serious consideration should be given to discontinuing aspects, after checking with likely users and investigating why they do not use the information.

- If a State or local-level data collection procedure provides information needed for decisions, and it is part of a larger national or regional system, the procedure is more useful than it would be without that connection. The larger system provides reference data groups for the State data set. One example is the Behavioral Risk Factor Surveillance System, which provides basic information on perceived weight, diet behavior, and exercise behavior. Those data are useful for problem identification. They provide national references for comparing New York State statistics with those from other data systems.

- If there is a need for information, examine other programs in the health department to see if the data elements could be added to an existing program or system. NSP might be able to take advantage of the established system's relationships and reputation to obtain the data needed. This was the case with the Nutrition and Dental Health Survey.

- There are multiple uses for data sets, such as WIC Program data, which are used for need estimates, priority setting, and allocation of funds.

*'New data may be needed, but there are many sources of data within health departments and available from their contractors that can provide nutrition indicators.'*

The ability to link data sets increases the information that a single data set provides, such as linking vital statistics records to WIC Program records. Many data sets are widely available and can provide data useful in decision making. They include the decennial census and supplements to the National Health Interview Survey.

**Relevance.** Publication of the Year 2000 objectives intensified attention and concern regarding the capacity of Federal, State, and local health agencies to report the nutrition condition of their various population subgroups. The National Nutrition Monitoring Act promises to have an impact on the development of State level nutrition surveillance. The systems at the State and local level that are currently in place provide very basic information.

The growing number and severity of public health nutrition problems will render current systems inadequate to meeting information needs unless we continue to develop more sophisticated surveillance systems. This is a time of public budget constraint, yet surveillance- and data-based decisions are more necessary than ever before.

Each State and large municipality that decides to establish nutrition surveillance will need to identify the decisions that require nutrition information. Priorities must be determined to understand the need for information about the extent and distribution of problems, the effectiveness of interventions, and predictions about nutrition-related health problems, with and without intervention. Decision makers are seeking information on these issues now from the current nutrition surveillance systems.

Although other States may face some of the same decisions as New York, and even use some of the same data elements, their systems will be unique in ways that reflect who, where, and when decisions are made. New data may be needed, but there are many sources of data within health departments and available from their contractors that can provide nutrition indicators. Sometimes the decision makers will find that the surrogates are adequate and, at other times, only a temporary indicator, until a system to obtain more specific data becomes operational.

The challenge in nutrition surveillance is to preserve simplicity in the design of the system, to keep the use of the system and the system user at the forefront of the work, and to be responsive to users' needs for information.

## References .....

1. World Health Organization: Methodology of nutritional surveillance. Report of a Joint FAO/WHO/UNICEF Expert Committee. WHO Technical Report Series 593, Geneva, 1976.
2. Mason, J. B., and Mitchell, J. T.: Nutritional surveillance. *Bull World Health Organ* 61: 745-755 (1983).
3. Nutrition Surveillance Program: The New York State Nutrition Surveillance System in 1985: theory, practice, and workplan. New York State Department of Health, Albany, 1985.
4. Habicht, J.-P.: Nutrition surveillance. Working paper, AID Workshop on Nutrition Surveillance, April 20-22, 1988. U.S. Agency for International Development, Washington, DC, 1988.
5. International classification of diseases: manual of the international statistical classification of diseases, injuries, and causes of death. Ninth revision. Clinical Modification, Ed. 3. DHHS Publication No. (PHS) 91-1260. Public Health Service, Centers for Disease Control, National Center for Health Statistics, and Health Care Financing Administration, Hyattsville, MD, 1988.
6. Pelletier, D. L.: Approaches for estimating unmet need and allocating funds for nutrition progress for the elderly in New York State. Working Paper Series No. 42. Cornell University Nutritional Surveillance Program. Ithaca, NY, 1985.
7. Roe, D. A., Williamson, D. F., and Frongillo, E. A., Jr.: Supplemental Nutrition Assistance Program, final report, 1984-85 Survey of Elderly Recipients of SNAP Home Delivered Meals in New York State. Division of Nutritional Sciences, Cornell University, Ithaca, NY, 1985.
8. Fitti, J. E., and Kovar, M. G.: The supplement on aging to the 1984 National Health Interview Survey. National Center for Health Statistics. *Vital Health Stat [1]* 21: 1987.
9. Campbell, C. C.: Nutrition surveillance and its implications for community nutrition. Professional Perspectives. Division of Nutritional Sciences, Cornell University, Ithaca, NY, July-August 1985.
10. Thompson, W. E., et al.: Within month variability in use of soup kitchens in New York State. *Am J Public Health* 78: 1298-1301 (1988).
11. Nutrition Surveillance Program: Emergency food census reports. New York State Department of Health, Albany, 1988, 1989.
12. Frongillo, E. A., Williamson, D. F., Roe, D. A., and Scholes, J. E.: Continuance of elderly on home-delivered meals programs. *Am J Public Health* 77: 1176-1179 (1987).
13. Morris, P. M.: A report on the quality of meals served in soup kitchens in New York State. Nutritionists Organized Against Hunger, Ithaca, NY, 1986.
14. National Cancer Institute: Health Habits and History Questionnaire: diet history and other risk factors. NCI Monograph, Division of Cancer Prevention and Control, National Institutes of Health, Bethesda, MD, 1988.
15. Five-Year Food and Nutrition Plan: 1988-1992. New York State Food and Nutrition Policy Council, Albany, 1988.
16. Public Health Service: Healthy people 2000: national health promotion and disease prevention objectives. DHHS Publication No. (PHS) 91-50212. Office of the Assistant Secretary for Health, Office of Disease Prevention and Health Promotion. U.S. Government Printing Office, Washington, DC, 1990.
17. 99th Congress: Testimony by Janice M. Dodds to House of Representatives Select Committee on Hunger. Hearings on Socioeconomic Factors Associated with Hunger and Poverty in Urban America; Brooklyn, NY, Nov. 8, 1985. U.S. Government Printing Office, Washington, DC, 1985.
18. Thacker, S. B., and Berkelman, R. L.: Public health surveillance in the United States. *Epidemiologic Rev* 10: 164-190 (1988).
19. U.S. Department of Health and Human Services and U.S. Department of Agriculture: Nutrition monitoring in the United States—a progress report from the Joint Nutrition Monitoring Evaluation Committee. U.S. Government Printing Office, Washington, DC, 1986.
20. Ostenson, G. L.: National Nutrition Monitoring System: a historical perspective. *J Am Diet Assoc* 84: 1181-1185 (1984).
21. Habicht, J.-P., Lane, J. M., and McDowell, A. J.: National nutrition surveillance. *Federation Proceedings* 37: 1181-1187 (1978).
22. Woteki, C. E., Briefel, R. R., and Kuczmarski, R.: Contributions of the National Center for Health Statistics. *Am J Clin Nutr* 47: 320-328 (1988).
23. Public Health Service: Promoting health/preventing disease: objectives for the nation. Office of the Assistant Secretary for Health. U.S. Government Printing Office, Washington, DC, 1980.
24. McGinnis, J. M.: Targeting progress in health. *Public Health Rep* 67: 295-307, July-August 1982.
25. Green, L. W., Wilson, R. W., and Bauer, K. G.: Data requirements to measure progress on the objectives for the nation in health promotion and disease prevention. *Am J Public Health* 73: 18-24 (1983).
26. U.S. Department of Agriculture, Food and Nutrition Service: Report of the President's Task Force on Food Assistance. U.S. Government Printing Office, Washington, DC, 1984.
27. Public Health Service: Surgeon General's report on nutrition and health, 1988. DHHS Publication No. (PHS) 88-50210. U.S. Government Printing Office, Washington, DC, 1988.
28. National Research Council: Diet and health: implications for reducing chronic disease risk. Committee on Diet and Health. National Academy Press, Washington, DC, 1989.
29. Mason, J. B., Habicht, J.-P., Tabatabai, H., and Valverde, V.: Nutritional surveillance. World Health Organization, Geneva, 1984.
30. New York State Department of Health: Nutrition watch. Albany, NY, 1982.